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REVIEW ARTICLE

Dietary and lifestyle recommendations for constipation

María F. García-Cedillo

Independent researcher, Scottsdale, Arizona, United States of America

Abstract

This narrative review presents the available evidence on dietary and lifestyle interventions for the management of chronic constipation in adults, a disorder with an estimated prevalence of 10-15% and a substantial impact on quality of life. The evidence supports a daily fiber intake of 25-35 g, preferably from food sources, through mechanisms that increase stool bulk, water retention, and colonic fermentation. Among supplements, psyllium demonstrated the greatest efficacy in global symptom response (RR: 1.82; 95% CI: 1.51-2.20), bowel movement frequency, and straining, whereas other fibers showed limited effects. Specific foods such as kiwifruit and prunes increase complete spontaneous bowel movements (RR: 1.13; IC 95%: 0.39-1.88) and improve stool consistency, with effects attributed to fiber, sorbitol, and bioactive compounds; mango suggests additional microbiota-mediated benefits, although evidence remains limited. Dietary patterns such as the Mediterranean diet are associated with a lower risk (16%; 95% CI: 9-22), independent of fiber intake. Fluid intake shows an inverse association (OR: 0.80), but increasing fluids alone does not improve symptoms in adequately hydrated individuals. Physical activity reduces risk, whereas sleep disorders increase it (OR: 1.47-1.94), with a U-shaped relationship according to sleep duration. Overall, the evidence supports a multifactorial, individualized, and pathophysiology-based approach, prioritizing fiber type, dietary patterns, and behavioral modifications, with limitations related to methodological heterogeneity and the predominance of observational studies. Gradual fiber titration with adequate hydration is recommended to minimize bloating and flatulence, and clinical phenotypes should be considered when selecting targeted and safe therapeutic interventions in routine practice.

Keywords: Constipation. Dietary fiber. Lifestyle modification. Fiber supplementation.

Recomendaciones dietéticas y de estilo de vida para el estreñimiento

Resumen

La presente revisión narrativa muestra la evidencia disponible sobre intervenciones dietéticas y de estilo de vida en el manejo del estreñimiento crónico en adultos, un trastorno con una prevalencia estimada del 10-15% y un alto impacto en la calidad de vida. La evidencia respalda una ingesta de fibra de 25-35 g/día, preferentemente de fuentes alimentarias, con mecanismos que incrementan el volumen fecal, la retención hídrica y la fermentación colónica. Entre los suplementos, el psyllium ha mostrado mayor eficacia en cuanto a respuesta global (RR: 1.82; IC 95%: 1.51-2.20), frecuencia evacuatoria y esfuerzo defecatorio, mientras que otras fibras presentan efectos limitados. Algunos alimentos específicos, como el kiwi y las ciruelas pasas, aumentan las evacuaciones completas (RR: 1.13; IC 95%: 0.39,1.88) y mejoran la consistencia, con efectos atribuibles a la fibra, el sorbitol y compuestos bioactivos; el mango parece tener beneficios adicionales mediados por microbiota, aunque con evidencia limitada. Patrones dietéticos como la dieta mediterránea se asocian con menor riesgo (16%; IC 95%: 9-22), independientemente de la fibra. La ingesta de líquidos muestra una asociación inversa (OR: 0.0), pero su incremento aislado no mejora

Correspondence:
María F. García-Cedillo
E-mail: fernandagace1189@gmail.com

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los síntomas en normohidratados. La actividad física reduce el riesgo, mientras que los trastornos del sueño lo incrementan (OR: 1.47-1.94), con relación en U según la duración. En conjunto, la evidencia apoya un abordaje multifactorial, individualizado y basado en la fisiopatología, priorizando el tipo de fibra, los patrones dietéticos y las modificaciones conductuales, con limitaciones derivadas de la heterogeneidad metodológica y el predominio de estudios observacionales. Asimismo, se recomienda un escalamiento gradual de la fibra con hidratación adecuada para minimizar la distension y la flatulencia, y considerar los fenotipos clínicos al seleccionar intervenciones terapéuticas dirigidas y seguras en la práctica clínica habitual.

Palabras clave: Estreñimiento. Fibra dietética. Modificación del estilo de vida. Suplementación con fibra.

Introduction

Constipation is a common gastrointestinal disorder in outpatient care, with an estimated prevalence of 10% to 15% in adults and a greater impact in women and adults aged 65 years and older.[1] Its clinical and quality-of-life impact is considerable, which justifies the implementation of effective and sustainable therapeutic strategies.

Non-pharmacological interventions, particularly dietary and lifestyle modifications, constitute the cornerstone of initial management.[2-5] However, the evidence supporting certain specific recommendations – such as food type, dietary patterns, fluid intake, or physical activity – is heterogeneous and sometimes limited by methodological variability across studies.

In this context, the objective of this narrative review is to synthesize the available evidence on dietary and lifestyle interventions in adults with constipation, with emphasis on updated recommendations structured by clinically relevant domains.

Method

A narrative review of the literature was conducted on the role of diet and lifestyle in the management of constipation in adults. The bibliographic search was performed in the PubMed database using the MeSH terms "constipation," "diet" or "dietary therapy," "lifestyle," "dietary fiber" or "fiber," "symbiotic," "exercise," "water," "fluid intake," and "sleep." Articles published between 2016 and 2026 in English and Spanish were selected, with priority given to clinical trials, systematic reviews, meta-analyses, and clinical guidelines of high methodological quality. In addition, literature published before 2016 deemed to be of high historical and conceptual impact was incorporated; works relevant to the description of mechanisms, nutritional content, and fundamental clinical trials were included.

In order to synthesize the available evidence and provide practical, evidence-based recommendations, the review was structured according to the following thematic areas: 1) fiber supplements, 2) specific foods, 3) impact of dietary patterns, 4) fluid intake, and 5) lifestyle (physical activity and sleep).

Results

Dietary modifications

First-line management of chronic constipation is based on dietary interventions and lifestyle changes, with an emphasis on adequate fiber intake, sufficient hydration, and the incorporation of foods with demonstrated efficacy. A daily fiber intake of 25 to 35 grams is recommended, preferably from food sources.

The main sources of dietary fiber are whole grains (oats, whole wheat, rye), legumes (lentils, beans, chickpeas), fruits (apple, pear, raspberry), vegetables (broccoli, carrots, peas), and seeds (almonds, sunflower seeds).[6] Table 1 summarizes the fiber content of these foods.[7,8]

The mechanisms by which dietary fiber improves intestinal transit and prevents constipation are multiple and interrelated. Fiber increases stool bulk both through its physical presence and its capacity to retain water (especially viscous soluble fibers) and through the increase in bacterial mass resulting from colonic fermentation. Large-particle insoluble fibers, such as coarse wheat bran, mechanically stimulate the intestinal mucosa, promoting the secretion of water and mucus. Furthermore, fermentation of fiber by the intestinal microbiota generates short-chain fatty acids (SCFAs) and gases that create an osmotic load, accelerating intestinal transit. Soluble fiber, particularly psyllium, also has prebiotic potential, favorably modifying the composition of the intestinal microbiota toward profiles associated with normal bowel function.[9]

Fiber supplements

The use of fiber constitutes a fundamental therapeutic strategy in patients with constipation. Dietary fiber is defined as the set of carbohydrates that are neither

Table 1. Fiber content per food

Group	Food	Amount	Total fiber (g)
Grains	Cooked brown rice	100 g	9.22
	Cooked white rice	100 g	2.54
	Whole wheat bread	1 slice	1.9
	Rye bread	1 slice	2.7
	Cooked oatmeal	¾ cup	3.0
	Rye cracker	1 piece	1.6
	Cooked potato	½ cup	1.4
	Baked potato with skin	1 medium piece	3.3
	Cooked sweet potato	½ piece	4.1
	Cooked wheat	100 g	15.8
	Cooked yellow corn	100 g	9.2
Legumes	Cooked beans	100 g	19.6
	Lentils	100 g	14.0
Vegetables	Cooked peas	100 g	5.6
	Green beans	100 g	2.4
	Lettuce	1 cup, chopped	0.9
	Cooked spinach	½ cup	2.2
	Raw carrots	2 pieces	2.5
	Raw broccoli	½ cup	1.1
	Raw celery	½ cup	0.8
Fruits	Prunes	5 pieces	3.4
	Orange	1 piece	3.1
	Apple	1 piece	5.4
	Banana	1 piece	3.5
	Pear	1 piece	5.5
	Raspberry	½ cup	4.0
	Strawberry	1 cup	3.3
	Papaya	100 g	1.7
	Kiwifruit	100 g	3.0
	Mango	100 g	1.8

Adapted from Dahl and Stewart[6] and from Dodevska et al.[7]

digested nor absorbed in the small intestine, with a degree of polymerization of three or more monomers, in addition to lignin.[10]

Soluble and viscous fibers (such as psyllium, beta-glucans, and certain pectins) exert a stool-softening effect through water retention in the colonic lumen, promoting the formation of a gelatinous matrix that increases water content and stool volume, thereby contributing to the improvement of stool hydration and plasticity.[10] In contrast, insoluble and non-viscous fibers (such as wheat bran and cellulose) exert a mechanical effect on the intestinal mucosa due to their physical structure. Their larger particles and rough surface generate direct friction against the colonic wall, which induces the secretion of water and mucus and activates local reflexes that accelerate intestinal transit. This effect requires the fiber to resist bacterial fermentation and remain relatively intact throughout the colon, contributing to increased stool volume.

The joint clinical guideline of the American College of Gastroenterology and the American Gastroenterological Association recommends fiber supplements as a first-line treatment in adults with chronic constipation, particularly in those with insufficient dietary fiber intake.[9]

The available evidence shows differences in the efficacy of the various fiber supplements, particularly in relation to bowel movement frequency and consistency, and the reduction of straining. Psyllium has demonstrated the greatest clinical efficacy among fiber supplements, being associated with a significant improvement in global symptom response (relative risk [RR]: 1.82; 95% confidence interval [95% CI]: 1.51-2.20; $p < 0.001$). Benefits were also observed in bowel movement frequency (MD: 1.13; 95% CI: 0.39-1.88) and a reduction in straining (MD: –0.65; 95% CI: –0.91 to –0.39). Pectin also showed favorable effects on global symptom response and stool consistency, whereas polydextrose, inulin, galacto-oligosaccharides, and wheat bran showed limited or non-significant benefits.[11]

Table 2 provides a comparative summary of the effects reported for the different fiber types on the main clinical outcomes, including global treatment response, bowel movement frequency and consistency, and the presence of excessive straining during defecation.[11,12]

Specific foods

Certain foods have scientific evidence of benefits in the management of constipation in adults. The following describes some of them.

Kiwifruit

Current evidence indicates that daily consumption of kiwifruit constitutes an effective dietary strategy for the management of constipation. A meta-analysis of seven randomized clinical trials (n = 399 patients), with a predominance of women and a mean age of 42 years, showed that the intake of 2 to 3 kiwifruits per day is associated with an increase of 0.36 complete spontaneous bowel movements per week (95% CI: 0.24-0.48), as well as improvements in stool consistency and reduction of straining during defecation.[13,14]

These findings are supported by a multicenter study that reported an increase of more than 1.5 complete spontaneous bowel movements per week in patients with constipation and 1.73 in those with irritable bowel syndrome with predominant constipation, consistently confirming the benefits of kiwifruit across different patient profiles with bowel dysfunction.[15]

Prunes

Prunes constitute a rich source of dietary fiber, including hemicellulose, pectin, and cellulose, as well as sorbitol, which confers laxative properties. This nutritional profile promotes an increase in stool weight without substantially modifying its water content, suggesting that the primary effect of prunes centers on increasing stool volume rather than water retention *per se*.[12] Studies conducted in adults with constipation found that daily consumption of 100 grams of prunes improves bowel movement frequency and consistency and reduces straining during defecation, with effects observed as early as 3-4 weeks of intervention.[16,17]

In a randomized clinical trial conducted by Lever et al.,[18] the effect of daily prune consumption on gastrointestinal function was evaluated in 120 healthy adults with low fiber intake and infrequent bowel habits. Participants were assigned to consume 80 or 120 grams of prunes per day or a control (water only) for 4 weeks. Results showed that both prune groups presented a significant increase in stool weight (+22.2 g/day with 80 g/day and +32.8 g/day with 120 g/day) compared to the control, as well as an increase in bowel movement frequency, with no significant differences between doses. Stool consistency and intestinal transit time were not modified, while flatulence increased slightly in the intervention groups compared to the control. The authors concluded that the beneficial effect of prunes is primarily due to their dietary fiber and sorbitol content, which increase stool volume and water content, rather than changes in intestinal motility or colonic fermentation.[18]

Complementarily, a randomized controlled clinical trial evaluated the effect of consuming 54 g/day of prune juice versus a placebo juice in 84 patients with constipation. Results showed that the group receiving prune juice presented a significant stool softening compared to the placebo group, as measured by the Bristol scale (3.57 ± 0.81 vs. 3.03 ± 1.10 points; p = 0.012).[19]

Consistent with these findings, a subsequent comparative study demonstrated that interventions with natural foods such as kiwifruit, prunes, and psyllium increase bowel movement frequency and improve symptoms associated with chronic constipation.[16] In particular, prunes and kiwifruit showed significant improvements in stool consistency, whereas kiwifruit was also associated with a lower incidence of adverse effects and greater patient satisfaction, suggesting its potential as a well-tolerated therapeutic alternative.[16]

Mango

The relationship between mango consumption and constipation has been evaluated in recent clinical and preclinical studies. Mango is a fruit with a moderate fiber content (1.3 to 3.8 g/100 g) and rich in polyphenols, suggesting beneficial effects beyond its fiber contribution. Available evidence indicates that regular consumption may improve symptoms of chronic constipation in adults. In a pilot study, intake of 300 g/day of mango for 4 weeks was associated with an improvement in bowel movement frequency and consistency, as well as an increase in SCFA levels and a reduction of intestinal inflammatory markers, compared to an equivalent amount of isolated fiber.[20]

These effects appear to be mediated by the synergistic action of dietary fiber and polyphenols, which modulate the intestinal microbiota and promote the production of beneficial metabolites such as SCFAs, associated with improved intestinal motility and maintenance of mucosal integrity.[20] Furthermore, mango consumption promotes the growth of commensal bacteria such as *Bifidobacterium* spp., contributing to a healthier intestinal environment that is less prone to constipation.[21,22]

Despite these findings, the available evidence is preliminary, with limitations in size and scope, and therefore does not allow for firm recommendations. Consequently, mango could be considered only as a complementary component within a comprehensive dietary strategy for the management of constipation in adults, alongside other fiber sources and lifestyle modifications.[20]

Impact of dietary patterns

Dietary patterns rich in plant-based foods, such as the Mediterranean diet, are associated with a lower risk of constipation, probably due to their contribution of fiber, healthy fats, and positive effects on the intestinal microbiota and SCFA production.[23]

Mediterranean diet

The Mediterranean diet is characterized by high consumption of vegetables, fruits, legumes, nuts, whole grains, and olive oil as the main fat source, together with moderate fish and poultry intake, and low consumption of red meat, dairy products, and sweets.[24] The specific portions of each food group are detailed in table 3.[23]

Evidence from prospective cohort studies and systematic reviews suggests that this dietary pattern is associated with a lower risk of chronic constipation in adults.[24,25] This association persists beyond total dietary fiber content, indicating that other components of the dietary pattern may also contribute to its beneficial effects on bowel function.[25]

In an analysis of three large U.S. prospective cohorts (Nurse's Health Study, NHSII, and Health Professional), which included more than 95,000 participants with biennial follow-up through lifestyle and health questionnaires, 7,519 incident cases of constipation were identified over a period of 2 to 4 years.[25] Results showed that individuals with greater adherence to the Mediterranean diet had a 16% (95% CI: 9-22) lower risk of constipation compared to those with low adherence.[25] This effect was maintained independently of fiber intake and consumption of ultra-processed foods, suggesting that the benefits of the Mediterranean diet on bowel function are not explained solely by its fiber content, but also by other bioactive components of the dietary pattern.

The proposed mechanisms to explain these effects include favorable changes in intestinal microbiota composition, with increased production of SCFAs – particularly propionate and butyrate – which act as key mediators between diet and intestinal barrier integrity.[26] These metabolites contribute to the reduction of intestinal inflammatory markers and to improved intestinal transit.[23] Additionally, intervention studies in specific populations, such as patients with Parkinson's disease, have demonstrated changes in the intestinal microbiota after 5 weeks of adherence to the Mediterranean diet.[27]

The clinical guideline of the American Society of Colon and Rectal Surgeons and the American

Table 2. Comparison of fiber supplements in the treatment of constipation

Fiber	Global response			Bowel movement frequency			Stool consistency			Excessive straining		
	RR (95% CI)	I^2	p	RR (95% CI)	I^2	p	RR (95% CI)	I^2	p	RR (95% CI)	I^2	p
Psyllium	1.82 (1.512.20)	0%	< 0.001	1.13 (0.391.88)	67%	0.003	0.52 (0.250.78)	0%	0.002	−0.65 (−0.91 to −0.39)	0%	< 0.001
Polydextrose	1.07 (0.831.39)	8%	0.06	−0.03 (−0.280.23)	0%	0.85	0.19 (−0.060.45)	0%	0.14	−0.05 (−0.380.27)	0%	0.75
Inulin blend and others	1.64 (0.614.42)	64%	0.10	0.37 (−0.851.60)	85%	0.55	-	-	-	-	-	-
Galactooligosaccharides	1.51 (0.942.45)	0%	0.37	0.62 (−101.34)	85%	0.001	0.16 (−0.340.66)	37%	0.20	-	-	-
Pectin	3.71 (1.837.56)	0%	0.003	2.84 (2.213.47)	NA	< 0.001	-	-	-	-	-	-
Wheat bran	0.55 (0.171.83)	NA	0.33	2.01 (1.032.99)	NA	0.002	-	-	-	-	-	-

All interventions were compared with placebo.
I^2: heterogeneity; 95% CI: 95% confidence interval; NA: not applicable; RR: relative risk.
Adapted from Van der Schoot et al.[11] and from Dimidi.[12]

Table 3. Proportions of each food group in the Mediterranean diet

Food	Servings
Olive oil	Main added fat at every meal
Vegetables	6 servings per day
Fruits	3 servings per day
Grains	8 servings per day
Legumes	34 servings per week
Nuts	34 servings per week
Fish and seafood	56 servings per week
Eggs	3 servings per week
Poultry	4 servings per week
Dairy products	2 servings per day
Red meat	4 servings per month
Sweets	3 servings per week
Red wine	1 glass per day

Adapted from Gui et al.[23]

Gastroenterological Association recommends dietary modification with increased fiber intake as first-line treatment for chronic constipation, before considering pelvic floor function or colonic motility studies. Soluble fiber, particularly psyllium, has more consistent evidence of efficacy, whereas insoluble fiber may exacerbate symptoms such as bloating and abdominal pain in some patients. Gradual supplementation increase accompanied by adequate hydration is recommended to improve outcomes and minimize adverse effects such as flatulence and abdominal bloating.[3,9]

Fluid intake

The relationship between fluid intake and constipation is complex and depends, to a large extent, on the individual's baseline hydration status. One study demonstrated that consumption of mineral water rich in magnesium and sulfates can improve bowel movement frequency and stool consistency, probably due to its osmotic effect on intestinal content. However, increasing fluid intake alone does not appear to significantly improve constipation in adequately hydrated individuals. In contrast, insufficient fluid intake has been associated with a higher risk of constipation, particularly in older adults and in individuals with low dietary fiber intake. Therefore, current recommendations suggest maintaining adequate hydration as part of a comprehensive approach to constipation, especially in patients with evidence of dehydration or insufficient fluid intake.[28]

The available evidence demonstrates a dose-response relationship between fluid intake and the risk of constipation. A meta-analysis based on data from the National Health and Nutrition Examination Survey (NHANES) 2005-2010, which included 14,492 adults, showed that lower fluid intake was associated with a higher prevalence of constipation. Consistently, higher fluid consumption was associated with a progressive reduction in the risk of constipation (OR: 0.80; 95% CI: 0.64-0.72; $p < 0.001$). These findings suggest that adequate hydration plays a relevant role in the physiology of intestinal transit and support the recommendation to maintain sufficient fluid intake as part of the comprehensive management of constipation.[29]

Despite evidence from clinical trials, the clinical practice guideline of the American Society of Colon and Rectal Surgeons and the American Gastroenterological Association recommends ensuring adequate fluid intake as part of the initial management of constipation. These recommendations are based on the pathophysiological principle that dietary fiber requires water to exert effects on stool volume and consistency, and on the epidemiological evidence demonstrating an association between low fluid intake and constipation.[28,30]

Lifestyle

Exercise

There is an inverse relationship between exercise and constipation: regular physical activity is associated with a lower risk and lower prevalence of constipation. The mechanisms include an increase in intestinal motility and the activation of autonomic reflexes that promote colonic transit, as demonstrated in studies evaluating the immediate effect of exercise on intestinal motility.[31]

Various epidemiological studies and meta-analyses have found that physically active individuals have a lower likelihood of constipation compared to sedentary individuals. For example, moderate exercise (walking, cycling, yoga) performed for at least 20-30 minutes per session, 5 days per week, significantly reduces the likelihood of constipation.[32,33] Furthermore, the combination of physical activity and a fiber-rich diet enhances the protective effect, whereas physical inactivity is an independent risk factor for constipation.[34]

The clinical guideline of the American Academy of Family Physicians recommends exercise as part of

lifestyle modifications for the management of chronic constipation, although it acknowledges that the evidence is limited and derives primarily from observational studies and small trials.[35] Therefore, promoting regular physical activity is a reasonable and clinically supported intervention for the prevention and treatment of constipation, especially when combined with an adequate diet in fiber and fluids.[5]

Sleep

There is a bidirectional relationship between sleep and constipation. Sleep disorders, such as poor quality, insufficient duration, and insomnia, are associated with a higher risk of constipation in both adults and children.[36] A meta-analysis showed that individuals with sleep disorders have a greater likelihood of constipation (OR: 1.47; 95% CI: 1.31-1.64), with the risk being particularly elevated in individuals with insomnia (OR: 1.94; 95% CI: 1.37-2.76) and in those with poor sleep quality (OR: 1.56; 95% CI: 1.0-2.45).[36] Furthermore, sleep duration shows a non-linear U-shaped relationship with the risk of constipation: both short sleep (≤ 4 hours) and prolonged sleep (≥ 10 hours) significantly increase the risk of constipation compared to a duration of 7 hours, with increases of 54% (OR: 1.54; 95% CI: 1.16-2.04) and 90% (OR: 1.90; 95% CI: 1.33-2.72), respectively.[37]

In patients with functional constipation, sleep deficiency is associated with more severe symptoms, alterations in anorectal function, and autonomic dysfunction, suggesting that insufficient sleep may affect intestinal motility and rectal perception.[38] On the other hand, constipation and its symptoms can contribute to poor sleep quality and the presence of anxiety and depression, perpetuating the vicious cycle between both conditions.[39]

Current evidence indicates that sleep disorders are an independent risk factor for the development and severity of constipation, and that the optimization of sleep habits should be considered as part of a multifactorial approach to constipation management.

Discussion

This narrative review synthesizes the available evidence on dietary and lifestyle interventions in the management of chronic constipation in adults, confirming that this approach constitutes the cornerstone of initial treatment, albeit with important nuances regarding the quality, consistency, and clinical applicability of the evidence.

One of the most robust findings is that not all fibers are therapeutically equivalent. Although clinical recommendations typically promote a general increase in fiber intake, the analyzed data demonstrate that the benefit is dependent on the physicochemical properties of each type. In this context, psyllium stands out as the intervention with the greatest support, with consistent improvements in bowel movement frequency, stool consistency, and straining, in accordance with international guidelines. In contrast, other widely used fibers, such as wheat bran, inulin, and polydextrose, show variable or limited effects. These findings question the validity of non-specific recommendations and underscore the need to individualize fiber prescription not only in quantity, but also in type and clinical tolerance.[23]

Beyond supplementation, the results support the role of certain specific foods with clinical evidence, introducing a more functional dietary approach that is potentially more acceptable to patients. Kiwifruit and prunes show consistent effects on relevant clinical outcomes, with effect sizes comparable to those of mild pharmacological interventions. Of particular interest is that their benefits do not appear to be explained exclusively by their fiber content, but also by the interaction of multiple bioactive components, such as sorbitol and phenolic compounds.[23] In the case of mango, the evidence suggests additional mechanisms mediated by intestinal microbiota modulation and SCFA production; however, these findings derive from small-scale studies, which limits their generalizability.[23] Taken together, these data support a conceptual shift from a reductionist nutrient-centered view toward an approach based on foods and complex dietary matrices.

On a broader scale, global dietary patterns – particularly the Mediterranean diet – emerge as a relevant determinant of constipation risk. The association observed in large prospective cohorts, independent of total fiber intake, suggests that other components, such as monounsaturated fatty acids and polyphenols, as well as the interaction of the dietary pattern itself, could play a role in the regulation of bowel function.[23] This finding is clinically relevant, as it positions dietary patterns as sustainable long-term interventions with benefits that transcend the isolated symptom of constipation and impact metabolic and cardiovascular health.

In contrast, the evidence on fluid intake is more heterogeneous and requires a contextualized interpretation. Although epidemiological studies show inverse associations between fluid consumption and constipation, clinical trials indicate that an isolated increase in fluid intake does not improve symptoms in adequately

hydrated individuals.[23] Therefore, the recommendation to increase fluid consumption should be directed primarily at patients with insufficient intake or in the context of increased fiber consumption, avoiding its indiscriminate application. This point illustrates a frequent discrepancy between pathophysiological evidence, observational data, and clinical results, which must be considered in practice.

Regarding lifestyle factors, physical activity shows a consistent inverse association with constipation, supported primarily by observational studies. Although mechanistic data suggest a direct effect on intestinal motility mediated by the autonomic nervous system, clinical trial evidence is limited and of variable quality.[23] Nevertheless, given its safety and systemic benefits, its recommendation remains clinically reasonable.

For its part, sleep emerges as a relevant and less explored determinant, with a complex bidirectional relationship. The association between sleep disorders and constipation, along with the U-shaped relationship between sleep duration and risk, suggests the involvement of neuroendocrine and autonomic mechanisms.[23] However, the predominantly observational nature of the evidence prevents establishing causality, which represents a priority area for future research.

This review has limitations inherent to its narrative design. The methodological heterogeneity among the included studies – regarding definitions of constipation, populations, and outcomes – limits direct comparison. Furthermore, much of the evidence on specific foods comes from studies with small samples and a predominance of women, which restricts its generalizability. Additionally, the lack of stratification by pathophysiological phenotypes of constipation hampers the application of targeted recommendations.

In this context, future lines of research should focus on: 1) clinical trials that directly compare different fiber types according to constipation phenotype; 2) intervention studies based on complete dietary patterns; 3) integration of objective biomarkers, such as microbiota and metabolomics, with clinical outcomes; and 4) longitudinal studies that clarify the causal relationship between sleep and bowel function.

Overall, the findings support a multifactorial, individualized, and evidence-based approach, in which diet and lifestyle not only constitute first-line interventions but also key determinants in the pathophysiology and clinical course of chronic constipation.

Conclusions

The management of chronic constipation in adults through dietary interventions and lifestyle modifications constitutes a first-line therapeutic strategy supported by scientific evidence of variable quality. This narrative review identifies specific interventions with demonstrated efficacy and highlights the need for a personalized approach that considers the individual patient's characteristics, constipation phenotype, and gastrointestinal tolerance.

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Conflicts of interest

The author declares no conflicts of interest.

Ethical considerations

Protection of persons and animals. The author declares that no experiments on human beings or animals were performed for this research.

Confidentiality, informed consent, and ethical approval. The study does not involve personal data, clinical records, or human biological samples, and therefore does not require ethical approval. The SAGER guidelines do not apply.

Statement on the use of artificial intelligence. The author declares that an artificial intelligence tool (ChatGPT) was used as support for the review of the manuscript style, and was subsequently reviewed and validated.

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